Amendments to the Claims:

Please cancel claims 2, 3, 7 and 8 without prejudice. Please amend claims 1, 6 and 17 as shown below. The following listing of claims will replace all prior versions and listings of the claims in this application:

1. (Currently Amended) A cache storage system for use in a data storage system having a plurality of virtual addresses, each virtual address having a data object associated therewith, the cache storage system comprising:

a plurality of storage devices, each data object being stored at a storage device location, each storage device location having a unique identifier; and

a cache for storing a data object associated with at least one virtual address wherein, for a first virtual address, the first virtual address data object is staged into the cache and, for a second virtual address, a pointer is generated for use in pointing to the first virtual address data object staged in the cache when the storage device location identifier of the second virtual address data object matches the storage device location identifier of the first virtual address data object, and wherein the cache comprises a location identifier table for storing at least one strorage device location identifier, and a virtual address table for storing a plurality of virtual addresses.

2. (Canceled.)

3. (Canceled.)

4. (Original) The system of claim 1 wherein the data storage system comprises a disk subsystem, the plurality of storage devices comprise a plurality of disk storage devices, each virtual address comprises a virtual track address, and each storage device location identifier comprises a track number.

5. (Original) The system of claim 1 wherein the pointer comprises an entry in a cache directory, the cache directory entry comprising a location in the cache of a segment storing data associated with a data object shared by the first and second virtual addresses.

6. (Currently Amended) A cache storage method for use in a data storage system comprising a plurality of storage devices and having a plurality of virtual addresses, each virtual address having a data object associated therewith, the method comprising:

providing a plurality of storage devices, storing each data object being stored at a storage device location, each storage device location having a unique identifier; and

providing a cache for storing in a cache a data object associated with at least one virtual address wherein, for a first virtual address, the first virtual address data object is staged into the cache and, for a second virtual address, a pointer is generated for use in pointing to the first virtual address data object staged in the cache when the storage device location identifier of the second virtual address data object matches the storage device location identifier of the first virtual address data object, and wherein the cache comprises a location identifier table for storing at least one storage device location identifier, and a virtual address table for storing a plurality of virtual addresses.

7. (Canceled.)

8. (Canceled.)

9. (Original) The method of claim 6 wherein the data storage system comprises a disk subsystem, the plurality of storage devices comprise a plurality of disk storage devices, each virtual address comprises a virtual track address, and each storage device location identifier comprises a track number.

10. (Original) The method of claim 6 wherein the pointer comprises an entry in a cache directory, the cache directory entry comprising a location in the cache of a segment storing data associated with a data object shared by the first and second virtual addresses.

11. (Original) A cache storage system for use in a data storage system, the data storage system comprising a plurality of storage devices and having a plurality of virtual addresses, each virtual address associated with a data object, each data object stored at a storage device location, each storage device location having a unique identifier, the cache storage system comprising:

a cache for storing a data object associated with at least one virtual address;

a virtual address table for storing a plurality of virtual addresses; and

a location identifier table for storing at least one storage device location identifier;

wherein, for a first virtual address, the first virtual address data object is staged into the cache, the location identifier for the first virtual address data object is stored in the location identifier table, and the first virtual address is stored in the virtual address table and linked to the location identifier for the first virtual address data object stored in the location identifier table, and wherein, for a second virtual address, a pointer is generated for use in pointing to the first virtual address data object staged in the cache when the location identifier of the second virtual address data object matches the location identifier stored in the location identifier table of the first virtual address data object, and the second virtual address is stored in the virtual address table and linked to the first virtual address.

12. (Original) The system of claim 11 wherein the virtual address table is stored in the cache.

13. (Original) The system of claim 11 wherein the location identifier table is stored in the cache.

14. (Original) The system of claim 11 wherein the virtual address and location identifier tables are stored in the cache.

15. (Original) The system of claim 11 wherein the data storage system comprises a disk subsystem, the plurality of storage devices comprises a plurality of disk

storage devices, each virtual address comprises a virtual track address, each storage device location identifier comprises a track number, the virtual address table comprises a virtual track number table, and the location identifier table comprises a track number table.

16. (Original) The system of claim 11 wherein the pointer comprises an entry in a cache directory, the cache directory entry comprising a location in the cache of a segment storing data associated with a data object shared by the first and second virtual addresses.

17. (Currently Amended) A cache storage method for use in a data storage system, the data storage system comprising a plurality of storage devices and having a plurality of virtual addresses, each virtual address associated with a data object, each data object stored at a storage device location, each storage device location having a unique identifier, the method comprising:

~~providing a cache for~~ storing in a cache a data object associated with at least one virtual address;

~~providing a virtual address table for~~ storing in a virtual address table a plurality of virtual addresses; and

~~providing a location identifier table for~~ storing in a location identifier table at least one storage device location identifier;

wherein, for a first virtual address, the first virtual address data object is staged into the cache, the location identifier for the first virtual address data object is stored in the location identifier table, and the first virtual address is stored in the virtual address table and linked to the location identifier for the first virtual address data object stored in the location identifier table, and wherein, for a second virtual address, a pointer is generated for use in pointing to the first virtual address data object staged in the cache when the location identifier of the second virtual address data object matches the location identifier stored in the location identifier table of the first virtual address data object, and the second virtual address is stored in the virtual address table and linked to the first virtual address.

18. (Original) The method of claim 17 wherein the virtual address table is stored in the cache.

19. (Original) The method of claim 17 wherein the location identifier table is stored in the cache.

20. (Original) The method of claim 17 wherein the virtual address and location identifier tables are stored in the cache.

21. (Original) The method of claim 17 wherein the data storage system comprises a disk subsystem, the plurality of storage devices comprise a plurality of disk storage devices, each virtual address comprises a virtual track address, each storage device location identifier comprises a track number, the virtual address table comprises a virtual track number table, and the location identifier table comprises a track number table.

22. (Original) The method of claim 17 wherein the pointer comprises an entry in a cache directory, the cache directory entry comprising a location in the cache of a segment storing data associated with a data object shared by the first and second virtual addresses.